

IDAHO STATE BOARD OF EDUCATION MEDICAL EDUCATION STUDY FINAL REPORT

RESPONSE TO QUESTIONS RAISED AT FINAL PRESENTATION

Questions/Issues:

1. Inventory of State Resources.
2. Total number of Idaho students in medical school not just WWAMI and % coming back to Idaho.
3. Economic cost of cutting back on WWAMI schools in terms of WWAMI doctors coming to Idaho. This would include not only Idaho students but others from that program.
4. Where are the “sick” people and what is the impact on location of medical education resources?
5. Clear definition between “minimal” and “great” economic impact.



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1. *Inventory of State Resources.*

Each of the three state universities already has faculty and other resources that might provide the basis for expanding medical education opportunity in the state and/or developing a new degree program. Chapter 2 of the project report discussed the resources of the three universities as well as provided information about the potential capacity of hospitals to participate in medical education.

To further assist the State Board in its analysis of medical education, we have prepared a tabular summary of related resources based on information from the report based and additional information requested from the three state universities. The chart on the next page focuses on several key types of university resources that will be necessary in expanding medical education within the state:

- Laboratories and support facilities for teaching human gross anatomy.
- Sophisticated mannequins that simulate human medical conditions.
- Library resources that support the study of medicine and related health professions.
- Working relationships with physicians and health care facilities to support clinical training.
- Tenure-track faculty in disciplines relevant to medical education.

It should be specifically noted that the resources summarized in the chart have been put in place to support existing academic programs that are likely to continue to be offered regardless of any possible expansion of medical education programming in the state. Their value lies in that they would provide a base or critical mass upon which additional faculty could be recruited and physical assets could be acquired. Unless these resources are *not* currently utilized to full capacity, one should not assume that they would be available at no cost to a new or expanded medical education program.

TABULAR SUMMARY OF UNIVERSITY RESOURCES TO SUPPORT MEDICAL EDUCATION

	<u>Boise State University[^]</u>	<u>Idaho State University^{^^}</u>	<u>University of Idaho^{^^^}</u>
Human Anatomy Lab	Yes. 1 lab with 3 cadavers, and 2 labs with full scale models.	Yes. Lab is used to teach a variety of anatomy courses. Cadavers come from ISU's donation program.	Yes. Lab is used to teach large undergraduate human anatomy courses in biology department. Cadavers come from WWAMI willed-body program.
Human Simulators	Yes. 1 high fidelity mannequin (human sim.) will be purchased by nursing dept soon. Also have 5 medium fidelity mannequins (4 in nursing and 1 in respiratory care).	Yes. The most advanced facilities are at the Boise Center, but also have facilities in Pocatello (both on and off campus) and Idaho Falls. Also, 2 fully equipped mobile labs can handle the simulated patients.	Yes. In Boise at the UW-WWAMI Internal Medicine Program. Clinical medical students are trained in multiple forms of medical simulation.
Library Collection: Medical Education	No. Medical and health professions materials are integrated into the main library collections and include journals, databases, books, and media materials.	Yes. The Idaho Health Sciences Library is housed within the main ISU library and hosts resources devoted to health professions and medical education. Also, some individual health programs have separate collections housed within the programs' facilities.	Yes. In addition, WWAMI students and WWAMI faculty have full online access to the UW Health Sciences Library.
Library Collection: Health Professions			No. Other health-related resources are integrated into main library collection. Partner program at WSU has separate health science library, to which all students have access.
Affiliations*	Nursing: 141 clinical sites.	Unduplicated counts: ~176 physicians and ~150 hospitals (some physicians and hospitals are affiliated with several programs).	Idaho physicians who serve as WWAMI clinical faculty: 258
	Other health-related programs: 30+ sites (Respiratory Care, Community and Environmental Health, Radiologic Sciences)	Total agreements with health facilities: ~1380 (some locations are duplicated among programs, but agreements themselves are not duplicated)	1st year preceptors: 58 physicians, 4 hospitals; 3rd year required rotations (6 total): 10 sites, 13 hospitals, 73 core faculty; 4th year clerkships (3 total): 7 sites, 11 hospital affiliations, 29 core faculty
			RUOP (rural summer training program, following 1st year): 32 physicians and rural community hospitals/clinics; WRITE: 3 sites in Idaho, 3 hospitals, 6 core faculty
			Residencies and Fellowships: Training relationships with all programs in Idaho (2 Family Medicine, 1 Internal Medicine, 1 Transitional Medicine, 1 Psychiatry, 1 Pediatrics, 1 Pulmonary Medicine)
	Total Affiliations: 171+ sites	Total Affiliations: 176 physicians, 150 hospitals, 1380 health facilities	Total Affiliations: 456 physicians/faculty (including RUOP), 31 hospitals (+32 RUOP sites)
Tenure Track Faculty**	Biology/Biological Sciences: 20	Biology/Biological Sciences: 39	Biology/Biological Sciences: 17
	Microbiology: 2 housed in Biology and 1 in Chemistry; included in those counts.	Microbiology/Biochemistry: No separate departments for these fields; faculty are housed and counted in other departments.	Microbiology/Biochemistry/Molecular Biology: 16
	Chemistry/Biochemistry: 12	Chemistry: 11	Chemistry: 14
	Other health-related fields: 56 (nursing, respiratory care, radiologic sciences, community and environmental health)	Other health-related fields: 45 (nursing, pharmacy, physician assistant, physical and occupational therapy)	Other health-related fields: 54 (counseling, health education, exercise science, psychology, food science and nutrition, etc.)
	Total Faculty in Related Fields: 88	Total Faculty in Related Fields: 95	Total Faculty in Related Fields: 101

[^]Source: Dr. Jim Munger, Boise State University

^{^^}Source: Dr. Ron McCune, Idaho State University

^{^^^}Source: Dr. Andrew Turner, University of Idaho/WWAMI

*Note: The numbers in this section for Boise State University and University of Idaho are not necessarily unduplicated counts.

**Note: These counts do not include clinical faculty, research faculty, visiting professors, or lecturers.

2. Total number of Idaho students in medical school not just WWAMI and % coming back to Idaho.

Based on data recently released by the Association of American Medical Colleges (AAMC), 62 matriculants (new medical students) in 2007 listed Idaho as their state of legal residence. Of these 62 matriculants, 28 are assumed to be receiving state sponsorship with 20 matriculants in the WWAMI program and 8 at the University of Utah. The other 34 students are attending either private medical schools or public medical schools in states where Idaho does not sponsor seats.

As seen in the exhibit below, comparisons between Idaho and other states on the basis of total medical enrollments per capita yield generally similar findings to the comparisons of state-funded positions that were included in the project report. When compared to all fifty states and the District of Columbia, Idaho ranks 45th in total students per capita instead of 48th for state-funded students. Idaho ranks 5th among the 8 Mountain States and 5th among the Small Population States on the basis of total students per capita, an improvement over the 8th of 8 rankings on the corresponding comparisons for state-funded seats. However, Idaho maintains its 8th ranking among Northwest States. In each of these comparisons, the ratio of total matriculants per 100,000 population is well below the ratios for the respective comparison groups.

**MATRICULANTS TO U.S. MEDICAL SCHOOLS
BY STATE OF LEGAL RESIDENCE
2007 ENTERING CLASS**

Comparators	Matriculants per 100K Population	Idaho's rank
Idaho	4.23	
National average	5.89	45
National median	5.60	45
Mountain states	4.87	5
Northwest states	5.53	8
Small population states	5.59	5

The fact that Idaho ranks slightly higher when all matriculants are considered than for just the state-funded students is further evidence of the strong demand among qualified Idaho students for a medical education. Students from Idaho may face more restricted access to public funded medical schools, where preference may be given to the students of the given state. Clearly, an important state policy issue is whether the state should support more medical students.

Although the AAMC periodically reports on the relationship between a physician's practice location and his or her medical school and residency training locations, it does not report on how many physicians practice in the same state that was their legal residence at the beginning of their medical education. Given the relatively high proportions of physicians who practice near their training location and the absence of any moral or legal obligation to return home to provide care to those who helped fund their training, we would not be surprised if such an analysis showed a low retention rate.

3. *Economic cost of cutting back on WWAMI schools in terms of WWAMI doctors coming to Idaho.*

As described in the project report, just under 50% of Idaho students who have participated in the WWAMI program have returned to the state to practice upon completion of their medical school and residency training (217 of 436 graduates). At the December meeting of the Board of Education, we shared more recent data from WWAMI that reported the retention rate to be 43%. These two rates bracket national data that show that approximately 47% of state medical schools graduates practice in the same state where they received their training.

WWAMI officials also report a second statistic related to their contributions to the physician workforces of Idaho and the other participating states. Termed the “return on investment,” the second statistic is the ratio of graduates of all WWAMI sites who practice in Idaho to the number of medical graduates that Idaho has funded in the WWAMI program. The Idaho WWAMI Fact Sheet reports this number to be 70%, and a subsequent publication lists a 71% return on investment rate. We interpret this question to relate to the potential loss to the future Idaho physician workforce of WWAMI graduates from the other partner states.

We agree that the University of Washington School of Medicine is a major contributor to the Idaho physician workforce. Data on new medical licenses issued in Idaho between 2002 and mid-2007 show that UW graduates (students from both Idaho and the other four WWAMI states) accounted for more new license holders than any other school. Other major contributors, listed in descending order, were the medical schools at the University of Utah (also a recipient of Idaho financial support), Loma Linda University, Oregon Health & Science University, and Creighton University.

When we compared the number of OHSU graduates to the number of non-Idaho native WWAMI graduates practicing in Idaho on a per capita basis, it appears the OHSU graduates are slightly more likely to practice in Idaho than WWAMI graduates from the four partner states. For this reason, we doubt that Idaho’s participation in the WWAMI program is a major factor in UW medical graduates from Washington, Wyoming, Alaska, or Montana choosing to practice in Idaho and instead their presence is the result of normal migration of workers among neighboring states. We suspect that potentially reducing or suspending participation in WWAMI would not reduce the number of UW graduates from these states coming to Idaho to practice and would not represent a significant economic cost to the state.

4. Where are the “sick” people, and what is the impact on location of medical education resources?

This question raises a number of issues critical to planning for the expansion of medical education in Idaho, including access to patients and availability of physicians, clinics, and hospitals. During the four years of Undergraduate Medical Education (following completion of the baccalaureate degree), medical students are introduced to clinical experiences early in their program. In the third year of medical school, students complete six required clinical rotations (clerkships): family medicine, general surgery, internal medicine, obstetrics and gynecology, pediatrics, and psychiatry. In the fourth year, students may explore their interests in elective clinical rotations.

Following completion of their M.D. programs, medical school graduates must complete Graduate Medical Education (or residency) training before they can practice medicine without supervision. This type of training is usually offered through major hospitals, medical centers, health clinics, and other ambulatory settings. During their residences, physicians prepare to practice in specialty areas (e.g., family medicine, pediatrics).

In order to complete the extensive clinical training that is outlined above, students and residents need patients, thus the interest in “sick” people. In addition, students need to work with people who are not sick for routine examinations and screenings and for wellness education. In general, patients are evenly distributed in the population with some notable disparities by specific disease that may be attributed to factors such as gender, age, income level, race/ethnicity, and behavior. While patients may be found in all geographic regions of Idaho, they are concentrated in areas of greater population. Therefore, access to the largest number of patients will correlate with the population centers of the state which have the largest number of physicians, hospitals, and clinics. The hospitals with the largest number of beds (over 100) are displayed below.

Traditional Community Hospitals	Location	Total by Facility
St. Luke's Boise/Meridian Reg Med Ctr	Boise/Meridian	537
Saint Alphonsus Reg Med Ctr	Boise	347
Portneuf Medical Center	Pocatello	273
Eastern Idaho Regional Medical Ctr	Idaho Falls	253
Kootenai Medical Center	Coeur d'Alene	253
St. Luke's Magic Valley Reg Med Ctr	Twin Falls	197
Mercy Medical Center	Nampa	152
St. Joseph Regional Medical Center	Lewiston	145
West Valley Medical Center	Caldwell	124
Other IHA Member Facilities	Location	Total by Facility
Idaho State Hospital South	Blackfoot	135

Sources: Idaho Hospital Association, based on state reports as of November 2006.

The distributive models of medical education take advantage of educating medical students in the most populated areas of the state. They also offer clinic experiences in less populated areas of the state where sick and well patients' medical needs are underserved because of limited access to physicians. Medical and other health professions students currently participate in numerous clinical tracks in rural Idaho. Medical student and resident rotations in rural areas help to address a pressing state need to serve patients in remote areas of Idaho.

5. Clear definition between “minimal” and “great” economic impact.

The last entry in Exhibit 7-1 of the project report summarized our impressions of the potential impact for growth in the state economy of the four medical education models under consideration. Due to concerns about the lack of precision in economic impact models, we used terms such a “minimal” or “great” impact rather than include specific dollar estimates in the exhibit. To help show how the different models were assessed, however, it is necessary to share the supporting calculations below. As seen, the economic impact of the contracted programs model is considerably lower than the other models since we assume that only 30% of the operating cost per student rate is expended within the state.

ESTIMATE OF APPROXIMATE MAGNITUDE OF ECONOMIC IMPACT RELATED TO INSTRUCTIONAL OPERATING COSTS OF DIFFERENT MEDICAL EDUCATION MODELS

Estimation Factor	Distributive Model, Single University	Contracted Programs	Distributive Model, Jointly Operated	GME Expansion
Assumed Number of Students				
Entrants per Year	80	60	80	80
Total Enrollment	320	240	320	320
Assumed General Fund Operating Cost per Student	\$ 75,000	\$ 65,000.00	\$ 75,000	\$ 32,000
Calculated General Fund Operating Budget	\$ 24,000,000	\$15,600,000	\$ 24,000,000	\$ 10,240,000
Assumed Proportion of Budget Expended in Idaho	100%	30%	100%	100%
Calculated In-State Expenditures	\$ 24,000,000	\$ 4,680,000	\$ 24,000,000	\$ 10,240,000
Economic Multiplier (per AAMC national study)	2.30	2.30	2.30	2.30
Estimated Economic Impact of Instructional Program	\$ 55,200,000	\$10,764,000	\$ 55,200,000	\$ 23,552,000

In the summary exhibit in the report, we rated the economic impact for the single university version of the distributive model slightly higher than for the joint approach. Even though the economic impact of the *instructional* program of the two models is shown to be the same in the chart above, we believe there would be a somewhat greater economic impact from the related *research* program of the single university model due to the synergy that would result from having a larger critical mass of faculty researchers in a single location.

Finally, the summary exhibit in the report indicated that the GME expansion model would have the greatest economic impact. That observation was qualified by the assumption that GME expansion would be coupled with one of the three models for undergraduate medical education.